# Environmental Factors and Adoption of Prosocial Crowdfunding in Microfinance Institutions in Tanzania

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#### Abstract

Prosocial crowdfunding is a crowdfunding model whereby organizations, mostly microfinance institutions (MFI) use digital media to access funds from individual lenders with a social mission. Although it has several potential advantages to MFIs such as providing cheap access to sources of funds, a high success rate, providing an opportunity to transfer credit default risk from MFIs to social investors, and improving both outreach and sustainability of MFIs, its diffusion in developing countries is relatively low, and little is known about factors influencing its adoption. Therefore, this study investigates the role of four environmental factors namely, client readiness, supplier support, competitive pressure, and regulatory support in influencing prosocial crowdfunding adoption in MFIs in Tanzania. The study employed a cross-sectional survey to collect data from 228 MFIs from five big cities in Tanzania (Dares Salaam, Mwanza, Arusha, Mbeya, and Dodoma). The study used partial least square structural equation modeling (PLS-SEM) for data analysis. The study revealed that while two environmental factors, client readiness, and supplier support have a significant effect on MFI's intention to adopt prosocial crowdfunding, the effect of the two remaining factors was insignificant.

**Key words**: *Prosocial crowdfunding, financial technologies, environmental factors, Adoption intention, TOE framework, Microfinance institutions, crowdfunding platforms* 

#### **1.Introduction**

Prosocial crowdfunding refers to the crowdfunding model whereby organizations mostly microfinance institutions raise additional or emergency funds for their clients through numerous investors via Internet platforms (Dorfleitner et al., 2020; Moleskis & Canela, 2016). Being among the crowdfunding models prosocial crowdfunding is a novel approach that involves leveraging digital technology to solicit contributions from numerous individuals globally (Jenik et al., 2017; Moleskis & Canela, 2016). As one of the models of crowdfunding, it is a promising innovation and the number of institutions that employ it is increasing (Bruton et al., 2011). Prosocial crowdfunding started formally in the 2000s when international prosocial crowdfunding platforms such as Kiva, Babyloan, and Unitedprosperity decided to partner with microfinance institutions in developing countries to provide micro-loans to the owners of micro and small enterprises (Allison et al., 2013; Flannery, 2009; Marakkath & Attuel-mendes, 2015; Moleskis & Canela, 2016). Providing access to cheap sources of funds, a high success rate, opportunity to transfer the credit default risk from the MFIs to individual lenders, and improving both MFIs' outreach and sustainability are some of the potential advantages of prosocial crowdfunding to MFIs (Anglin et al., 2020; Ashta, 2016; Belleflamme et al., 2015; Dorfleitner et al., 2017; Dorfleitner et al., 2020; Kauffman & Riggins, 2012). However, being one of the models of crowdfunding, its diffusion in developing countries is relatively low (Coffie et al., 2021; Yermack, 2018) and little is known about the factors influencing its use (Dorfleitner et al., 2020; Yang & Lee, 2019). From a strategic perspective of innovation, this is a significant oversight, as many prior scholars suggest that the worth of group lending technologies may be limited if some groups of individuals and organizations are excluded (Majchrzak & Malhotra, 2013; Rasheed et al., 2019). Hence, it is vital to comprehend the factors that motivate MFIs' decision to adopt prosocial crowdfunding.

The influence of environmental factors is important in organizations' decision to adopt various financial technologies such as FinTech payment services (Coffie et al., 2021), big data analysis (BDA) (Lai et al., 2018; Maroufkhani et al., 2020), cloud computing (Alshamaila et al., 2013), mobile banking (Ammar & Ahmed, 2016), electronic banking systems (Bultum, 2014) and other IT related innovations such as e-business (Zhu et al., 2003), and electronic data interchange (Kuan & Chau, 2001). Prosocial crowdfunding, being financial innovation in nature (Coffie et al., 2021; Yermack, 2018), its adoption at the organizational level may also be influenced by environmental factors. However, this relationship remains hypothetical because it is under-researched in the context of prosocial crowdfunding (Dorfleitner et al., 2020). Therefore, this study is determined to investigate the influence of environmental factors on crowdfunding adoption from the perspective of Microfinance institutions by employing a Technological-Organizational and Environmental (TOE) framework. TOE framework identifies three key contexts including environmental context that affect innovation adoption at the organizational level (Baker, 2012; Tornatzky & Klein, 1982). Since prosocial crowdfunding is at the infant stage in Tanzania, this study focuses on potential adopters because there is a positive relationship between intentions and behaviors (Gieure et al., 2020; Holak et al., 1990; Mathieson, 1991).

# 2. Literature Review

### 2.1 Prosocial Crowdfunding in Tanzania

Tanzania is among the developing countries where diffusion of crowdfunding is relatively low (Coffie et al., 2021; Yermack, 2018). Due to the lack of formal home-based crowdfunding platforms in Tanzania, prosocial crowdfunding is the dominant model of crowdfunding whereby Microfinance institutions partner with international prosocial crowdfunding platforms such as Kiva to provide micro loans to micro and small business owners (Kiva, 2020a). Like in other developing countries, Kiva is the most popular international prosocial crowdfunding platform in Tanzania (Dorfleitner et al., 2020). Since the establishment of Kiva in 2005 to date, only thirteen (13) microfinance institutions in Tanzania use prosocial crowdfunding to raise additional funds for their clients (Kiva, 2020b).

# **2.2 Theory Underpinning the Study**

In 1990 Tornatzky and Fleischer developed the Technology-Organization-Environment (TOE) to study the adoption of technological innovation in general (Zhu et al., 2003). TOE framework identifies three key contexts that affect innovation adoption at the organizational level; technology context, organizational context, and environmental context, hence the name "TOE" Framework (Baker, 2012; Tornatzky & Klein, 1982). Technological context considers both internal and external technologies available for the organization that might be useful for improving organizational productivity. The organizational context is defined in terms of resources available to support the acceptance of the innovation. The environmental context describes how factors external to the organization affect the innovativeness of the organization. It consists of the industry, competitors, access to resources supplied by others, and dealings with the governments (Baker, 2012).

The focus of this study is environmental context. Four environmental factors; competitive pressure, consumer readiness, Government regulations, and supplier support consistently have been found to influence the adoption of web-based technologies in several previous studies which examined the influence of environmental factors in the process of adopting the innovations (Alshamaila et al., 2013; Ammar & Ahmed, 2016; Ghobakhloo et al., 2011; Kuan & Chau, 2001; Maduku et al., 2016; Muthinja & Chipeta, 2018; Nam et al., 2015; Thong, 1999; Thong & Yap, 1995; Zhu et al., 2003). Accordingly, this study wishes to determine the effect of the four environmental factors on MFI's intention to adopt prosocial crowdfunding.

### **3.3 Conceptual Model and Hypothesis Development**

Drawing on the TOE framework, particularly the environmental context and the literature review, four environmental factors particularly client readiness, supplier support, regulatory support, and competitive pressure are proposed to influence MFIs' intention to adopt prosocial crowdfunding (see Figure 1). Brief explanations about the four environmental factors and their relationship with firms' innovativeness and the four proposed hypotheses are presented in the following subsections.

### 3.3.1 Competitive Pressure and MFIs' Intention to adopt prosocial crowdfunding

The degree of pressure felt by the organization from competitors within the industry is known as competitive pressure. Competition stimulates innovation in two major ways; through high competition which forces some firms to adopt innovations to gain competitive advantage (Thong, 1999); and through mimetic pressure whereby both the perceived extent of innovation adoption and success derived from innovation adopted by competitors force some firms to adopt the innovation (Teo, 2003) Several previous studies identified Competition as a significant predictor of technological innovation in organizations (Kuan & Chau, 2001; Premkumar, 2003; Zhu et al., 2003). Also, previous studies on financial technologies found that competition was a significant predictor of the adoption of FinTech services such as Internet banking and big data analytics (Lai et al., 2018; Ndungu & Moturi, 2020). Therefore, this study also expects a positive effect of the perceived level of competition on MFIs' intention to adopt prosocial crowdfunding in Tanzania. Hence;

*H1*: Perceived competitive pressure has a positive effect on MFI's intention to adopt prosocial crowdfunding.

### 3.3.2 Client Readiness and MFIs' Intention to adopt prosocial crowdfunding

Client readiness is a combination of clients' willingness and internet penetration, whereby client willingness reflects the degree to which the client is willing to engage in online shopping by providing information required to close sales while internet penetration is measured by the diffusion of personal computers and internet penetration in the population (Zhu et al., 2003). Accordingly, in this study, client willingness refers to the extent to which MFI's clients are willing to disclose their information both personal and business information publicly by legally allowing MFIs to post their information on the crowdfunding platforms for funding, while internet penetration reflects the degree to which MFIs' clients own and use smartphones to send their information to MFIs when required. Clients' readiness is important to the MFIs as it reflects the number of crowdfunding campaigns to be posted on the prosocial crowdfunding platforms which determine the number of funds to be raised through prosocial crowdfunding (Dorfleitner et al., 2017; Dorfleitner et al., 2003). Therefore, in this study also, client readiness is expected to have a positive effect on MFI's intention to adopt prosocial crowdfunding. Hence the following hypothesis is proposed;

H2: Client readiness has a positive effect on MFIs' intention to adopt prosocial crowdfunding.

#### 3.3.3 Regulatory Support and MFIs' Intention to adopt prosocial crowdfunding

Several studies have found an association between regulation and innovation adoption. The impact of regulation on innovation depends on both compliance cost and the incentive effect, whereby low or even zero compliance costs impact innovation positively while high compliance cost has negative impacts on innovation (Blind, 2016). Additionally, the absence of a specific legal framework for the implementation of a particular innovation affects negatively its adoption

(Bultum, 2014). Several previous studies have found a positive relationship between enabling legal environment and the adoption of financial technologies in the banking industry (Ammar & Ahmed, 2016; Muthinja & Chipeta, 2018; Ndungu & Moturi, 2020). Crowdfunding activities in Tanzania are potentially regulated by several regulatory bodies particularly, The Bank of Tanzania (BOT) and The Capital Markets Authority (CMA) subject to the interpretation of the existing pieces of legislation such as the National Payment Systems (NSP) Act and NPS Regulations, Electronic Money Regulations and Anti-Money Laundering Regulations, The Microfinance Act (MA Act), the Capital Markets Act (CMA Act) and Banking and Financial Institutions Act (BAFIA) (Garvey et al., 2017). Therefore, we expect a positive relationship between the support of the existing government regulations and MFIs' intention to adopt prosocial crowdfunding.

H3: Regulatory support has a positive effect on MFIs' intention to adopt prosocial crowdfunding.

### 3.3.4 Supplier Support and MFIs' Intention to adopt prosocial crowdfunding

Marketing activities of the suppliers of the innovations stimulate innovation adoption (Frambach et al., 1998). Among others, innovation targeting, innovation communication, and all activities of the supplier such as giving time for potential adopters to try innovation before full adoption have a high impact on innovation adoption (Easingwood & Beard, 1989). Suppliers' marketing activities reduce the perceived risk of innovation adoption and develop potential adopters' innovation-related capabilities which potentially influence innovation adoption in firms (Frambach & Schillewaert, 2002; Weigelt & Sarkar, 2009). There are mixed findings concerning the impact of Vendors' Marketing activities on technology adoption. While in some previous studies vendors' marketing activities were found to predict significant adoption of innovations (Alshamaila et al., 2013; Thong, 1999), vendors' support was found to have an insignificant impact on innovation adoption in other previous studies (Maduku et al., 2016). A high knowledge base about the use of technology within the studied organizations was a possible reason for the insignificant effect of vendors' marketing on innovation adoption. The Newness of the prosocial crowdfunding concept in Tanzania may imply a low knowledge base about prosocial crowdfunding among MFIs. In this situation, supplier support may be regarded as important in stimulating the adoption of prosocial crowdfunding. Therefore, we expect supplier support to affect MFIs' intention to adopt prosocial crowdfunding positively. Hence the following hypothesis is proposed;

H4: Supplier support has a positive effect on MFI's intention to adopt prosocial crowdfunding.



Figure 1: Conceptual Model showing the relationship between environmental factors and the intention of MFIs to adopt prosocial crowdfunding.

### **3. Research Methods**

#### **3.1 Measurements**

The latent variables in this study were measured by multiple items which were adapted from previously-validated scales literature with slight modifications to fit the context (See appendix 1). Seven-point Likert scale-type anchors ranging from 1(Strongly disagree) to 7(Strongly agree) were used to measure the constructs' items. To ensure adequate reliability, a minimum of three items were used per construct as recommended by previous literature (Hair Jr et al., 2021). As the medium of communication in Tanzania is Kiswahili, the data collection instrument was translated into the Kiswahili language by a language professional. After translating the instrument into the Kiswahili language, it was back-translated into English by another translator to validate the translation. To ensure the comprehensibility of the survey, the translated version of the questionnaire was piloted to 30 MFIs' CEOs before collecting data from a larger population. Feedback from a pilot study enabled the researcher to make minor improvements to the research questions.

#### **3.2 Sampling and Data Collection**

The target population of the study was microfinance institutions under tier 2 (URT, 2019) from Tanzania's mainland. The list of 578 MFIs under tier 2 was obtained from the website of The Bank of Tanzania (BoT) on November 2020 (BoT, 2020). The sample size of 236 was determined by using the Yamane formula as suggested by extant literature (Singh & Masuku, 2014). Since the headquarters of MFIs were concentrated in big cities (Chijoriga, 2015), judgemental sampling was used to select the area of the study whereby five big cities in Tanzania (Dares salaam, Mwanza, Mbeya, Dodoma, and Arusha) were selected. The number of MFIs to be studied from each big city was obtained by using proportional sampling whereby the total number of MFIs in each

selected city was divided by the total number of MFIs in all five big cities. The proportions obtained from each city were multiplied by the determined sample. Simple random sampling particularly fishbowl sampling was used to obtain MFIs to be studied from each city. MFIs' CEOs were selected by using purposeful sampling as a respondent to represent their MFIs because they were members of the body of directors and involved in decision-making concerning all matters (URT, 2019). The questionnaires were sent to the selected 236 MFIs and administered to MFIs' CEOs. Of 236 MFIs sent questionnaires, 208 firms submitted their responses. Out of 208 submitted questionnaires, five questionnaires were not considered for data analysis because they were incomplete. Table 1 shows the profile of both respondents and the studied MFIs.

Since the study collected self-reported data, two steps were taken to avoid common bias method issues. First, respondents' desire to please and give incorrect answers was restricted by informing them about their anonymity and confidentiality as suggested by extant literature (Uddin et al., 2019). Second, the variance explained by the factors was examined by performing the Harmon one-factor test, the results showed that no single factor explains more than 50% of the overall variance, indicating that the common method bias problem was in the acceptable range (Lindell & Whitney, 2001).

Items	Category	Frequency	Percentage
Sex	Male	143	70.4
	Female	60	29.6
CEO's Age	18-25 years	6	3
	26-36 years	61	30
	36-45 years	125	61.6
	Above 45 years	8	3.9
	Missing systems	3	1.5
Education level	Primary level	6	3
	Secondary level	29	14.3
	Diploma level	8	3.9
	Degree level	96	47.3
	Postgraduate	64	31.5
CEO Tenure	1-4 years	141	69.5
	5-8 years	58	28.6
	Above 8 years	4	2.0
MFI's Age	1-4 years	138	68
	4-8 years	58	28.6
	Above 8 years	7	3.4
MFI's Size	1-4 employees	75	36.9
	4-9employees	77	37.9
	10-14 employees	17	8.4
	Above 14 employees	31	15.5
	Missing system	3	1.5

Table 1: Demographic Information of Respondents and MFIs

### 3.2 Data Analysis

To analyze the collected data, the Partial Least Square-Structural Equation Modeling (PLS-SEM) analysis method was employed. Several advantages of PLS-SEM such as accommodating latent variables, strong statistical predictive power compared to covariance-based structural equation modeling (CB-SEM), insensitivity to relatively small sample size and ability to accommodate both normal and non-normal data(Hair Jr et al., 2021) supported the uses of PLS-SEM in this study. The data analysis process involved two steps, the measurement model evaluation step and the structural model step to evaluate the reliability and validity of the constructs and to test the hypotheses, respectively.

# 4. Results

# 4.1 Measurement Model Evaluation Results

To evaluate the measurement model, the indicator's reliability, convergent validity, internal consistency reliability, and discriminant validity were assessed as suggested by the extant literature (Hair et al,2019). Indicators' reliability was assessed by examining the values of indicators' loadings and the results showed that all indicators except three indicators (ADOI1, ADOI3, and CR3) were having indicator loading above 0.70 as suggested by extant literature (Hair Jr et al., 2021). Since the indicators' loadings of the three indicators with loadings below 0.7 were above 0.4 and their removal was not raising both internal consistency reliability and convergent reliability of their respective constructs to an unacceptable level, they were retained for further analysis as suggested by extant literature (Hair Jr et al., 2021). To assess the convergent validity, the value of average variance extracted (AVE) of each construct was examined, and results showed that the value of AVE for all constructs was above 0.5, indicating that more than 50% of the indicators' variance was explained by their respective constructs, thus providing an acceptable level of convergent validity (Hair et al., 2019). Also, the internal consistency reliability of the constructs was assessed by examining Cronbach's Alpha and Composite Reliability (CR), the results showed that the value of both Cronbach's Alpha and CR for all constructs were above 0.7, indicating higher levels of reliability (Hair et al., 2019). Table 2 below shows the results of the indicator's validity, internal consistency, and convergent validity.

Construct	Indicators	Indicator's	Cronbach's	CR	AVE
		loadings	Alpha		
Adoption Intention	ADOI1	0.504			
	ADOI2	0.794			
	ADOI3	0.671			
	ADOI4	0.899	0.723	0.816	0.536
Supplier Support	SS1	0.802			
	SS2	0.827			
	SS3	0.838	0.767	0.860	0.672
Client readiness	CR1	0.861			
	CR2	0.861			
	CR3	0.517			
	CR4	0.793	0.758	0.850	0.595
Regulatory Support	RS1	0.793			
	RS2	0.927			
	RS3	0.923	0.868	0.916	0.785
Competitive pressure	CNP1	0.809			
	CNP2	0.936			
	CNP3	0.905			
	CNP4	0.793	0.891	0.921	0.744

#### Table 2: Measurement Model Evaluation Results

Further, the discriminant validity was assessed by examining heterotrait-monotrait (HTMT) ratio as proposed by previous literature (Henseler et al., 2015), and the results showed that all HTMT ratio values were less than 0.85, indicating an acceptable level of discriminant validity(Hair et al., 2019). Table 3 below shows the results of discriminant validity.

#### **Table 3: Discriminant Validity Assessment Results**

Construct	CPTN	CR	RS	SS
Competitive pressure (CNP)	0.266			
Client Readiness (CR)	0.589	0.230		
Regulatory support (RS)	0.213	0.207	0.193	
Supplier Support (SS)	0.381	0.364	00.225	0.185

#### **3.2 Structural Model Evaluation Results**

The structural model was evaluated based on the four standard assessment criteria, coefficient of determination(R2), the blindfolding-based cross-validated redundancy measure ( $Q^2$ ), statistical significance, and relevance of the path coefficients as suggested by extant literature (Hair et al., 2019). To ensure that collinearity problems do not bias regression results, collinearity issues were checked before evaluating the structural model by examining the inner VIF. The results showed

that all values of inner VIF were less than 2, indicating that collinearity was not an issue (Hair et al., 2019). To assess the model's explanatory power and its predictive accuracy, the coefficient of determination ( $\mathbb{R}^2$ ), and the blindfolding-based cross-validated redundancy measure ( $\mathbb{Q}^2$ ) were examined respectively. The results of  $\mathbb{R}^2$  and  $\mathbb{Q}^2$  for an endogenous variable were 0.310 and 0.135, establishing the model's explanatory power and model's predictive accuracy respectively (Falk & Miller, 1992; Hair et al., 2019).

After establishing both model's explanatory power and predictive accuracy, the statistical significance and relevance of the path coefficients were assessed by examining the path's coefficients( $\beta$ ), p-value, and (bias-corrected and accelerated) confidence interval as suggested by extant literature (Hair et al.,2019). Table 1V illustrates that the two relationships were significant as they yielded a p-value of less than 0.05, and a zero value was not between the lower and the upper bound of the (bias-corrected and accelerated) confidence interval as recommended by extant literature (Hair et al., 2019). Hence out of four hypotheses, two hypotheses (H2&H4) were supported and the remaining two hypotheses (H1&H3) were rejected. In terms of the relative importance of predictors in predicting the MFIs' intention to adopt prosocial crowdfunding, Table 1V (column 2), illustrates that client readiness was the most important among all constructs in predicting ADOI ( $\beta$  =.428, p = .000) followed supplier support ( $\beta$  =.205, p = .001), while the relative importance of the remaining factors, regulatory support ( $\beta$  =.119, p=.069) and competitive pressure ( $\beta$  =.092, p=.057) was insignificant.

Paths	Coefficients	p values	5.00%	95.00%	Decision
CNP-> ADOI	0.092	0.057	-0.014	0.176	Not Supported
CR -> ADOI	0.428	0.000	0.348	0.497	Supported
RS -> ADOI	0.119	0.069	-0.041	0.235	Not Supported
SS-> ADOI	0.205	0.001	0.087	0.297	Supported

### **Table 4: Structural Model Evaluation Results**

#### **5. Discussion of Findings**

The study examines the influence of four environmental factors (client readiness, competitive pressure, government support, and supplier support) on the intention of microfinance institutions to adopt prosocial crowdfunding. As shown in Table 4 above, out of four hypotheses, two hypotheses were supported and the remaining two hypotheses were rejected. Below is a discussion of the findings.

First, H1 was not supported ( $\beta$ =.092, P>.077) suggesting that competitive pressure was positively but insignificantly influencing MFI's intention to adopt prosocial crowdfunding. This result indicates that competitive pressure from the business environment does not compel MFIs to develop a positive intention toward prosocial crowdfunding adoption. Although this result contradicts several previous studies (Kuan & Chau, 2001; Lai et al., 2018; Maduku et al., 2016; Ndungu & Moturi, 2020; Premkumar, 2003; Zhu et al., 2003), it is consistent with Alshamaila et al. (2013) who found that the SME's decisions of whether to adopt innovation were not affected by competitive pressure. The insignificant effect of competitive pressure on MFI's intention to adopt prosocial crowdfunding may simply reflect the absence of rivalrous competition among MFIs in Tanzania. The high demand for microfinance services including micro-credit compared to its supply (Chijoriga, 2015; Marwa, 2014; URT, 2017) can be one of the plausible reasons for the absence of rivalrous competition among MFIs. These results support the argument that when competitive pressure is not rivalrous, competitive power becomes not the priority but rather the outcome of the innovation (Harindranath et al., 2008).

Second, H2 was supported ( $\beta$ =.428, P<.000), implying that client readiness positively and significantly influences MFI's intention to adopt prosocial crowdfunding. In other words, a lack of client readiness would negatively impact MFI's intention to adopt prosocial crowdfunding because MFIs cannot post their clients' loan proposals on the prosocial platforms without their legal consent. Client readiness reflects MFIs' ability to meet prosocial crowdfunding platforms' partnership criteria particularly financial requirements in terms of loan portfolio volume (Dorfleitner et al., 2020). Also, client readiness reflects the number of crowdfunding campaigns to be uploaded by an individual MFI on a crowdfunding platform which determines the number of funds to be accessed through prosocial crowdfunding (Dorfleitner et al., 2017). This result confirms the findings of early studies where consumer readiness had a significant effect on the adoption of electronic business in European firms (Zhu et al., 2003).

Third, H3 was not supported ( $\beta$ =.119, P>.069) implying that the regulations which were supporting prosocial crowdfunding adoption in Tanzania were positively but insignificantly influencing MFI's intention to adopt prosocial crowdfunding. The insignificant effect of the regulations is probably because there were not crowdfunding-specific (Garvey et al., 2017). The absence of crowdfunding-specific regulation lowers the overall performance of crowdfunding (Ziegler et al., 2021). Although this result contradicts several previous research in Africa that found a positive relationship between enabling legal environment and the adoption of financial technologies in the banking industry (Ammar & Ahmed, 2016; Muthinja & Chipeta, 2018; Ndungu & Moturi, 2020), it is in-line with Bultum (2014) who found out that the absence of a specific legal framework for the implementation of a particular innovation negatively affected the adoption of electronic banking systems.

Fourth, H4 was supported ( $\beta$ =.205, P<.001), indicating that supplier's support positively and significantly influences MFI's intention to adopt prosocial crowdfunding. Thus, the higher the supplier support the higher the intention to adopt prosocial crowdfunding. Supplier marketing activities create innovation awareness and stimulate potential adaptors' perceptions of the innovation (Frambach & Schillewaert, 2002). This result is in-line with Frambach et al. (1998) who reported a positive association between supplier's marketing strategies and innovation adoption. In addition, the positive role of supplier's marketing activities is acknowledged by Alshamaila et al. (2013) who found that supplier efforts and external computer support were important in the potential adopters' decision-making process.

#### 6. Conclusion and Implication of the Study

The study studied the influence of four environmental factors particularly competitive pressure, client readiness, government regulation, and supplier support on prosocial crowdfunding adoption. Out of the four environmental factors, two factors (client readiness and supplier support) have a

significant influence on prosocial crowdfunding adoption intention in MFIs. While client readiness creates an organization's need to adopt prosocial crowdfunding, supplier support creates a conducive environment for MFIs to adopt prosocial crowdfunding successfully.

For practice, this study has implications for the government and prosocial crowdfunding platforms' managers. For the government, the study highlights the importance of client readiness on MFIs' intention to adopt prosocial crowdfunding. This finding provides clues to policymakers about the importance of internet penetration, legal protection for online businesses, and security and privacy concerns on the diffusion of prosocial crowdfunding in Tanzania. Government, therefore, could accelerate the diffusion of prosocial crowdfunding by enhancing the business laws to make the Internet a trustworthy business platform (e.g. ensuring security and private concern). In addition, the insignificant effect of the existing government regulations on MFI's intention to adopt prosocial crowdfunding performance which consequently will motivate MFIs to adopt prosocial crowdfunding.

For the prosocial crowdfunding platforms' managers, the findings of this study highlight the importance of their support in promoting the adoption of prosocial crowdfunding in MFIs. These results suggested that for the international prosocial crowdfunding platforms to achieve their purpose of providing cheap access to funds to MFIs with capital constraints in developing countries, they should enhance their support to the potential users of prosocial crowdfunding.

#### 7. Limitation of the Study and Future Research

Like other studies, this study is not exceptional in terms of limitations. The first limitation is that the study investigated the potential adopters of prosocial crowdfunding because prosocial crowdfunding was at the infant stage in Tanzania. To gain a holistic understanding of prosocial crowdfunding adoption, the actual adoption of prosocial crowdfunding and its impacts on MFIs' performance should be examined in the future. Second, the study was limited in terms of the area of the study whereby the study was conducted in Tanzania, the future study should be conducted in other developing countries. Third, the study focus was only on environmental factors, future research should be conducted to study other factors such as such as organizational factors which affect the adoption of innovations in organizations setting (Abdullah et al., 2013; Amin & Hussin, 2014; Tehrani & Shirazi, 2014). Fourth, the study was limited in terms of population whereby only Microfinance institution institutions were studied, future studies should widen the scope by studying other organizations such as NGOs, Universities, and social enterprises which are potential beneficiaries of prosocial crowdfunding.

### References.

- Abdullah, N. H., Wahab, E., & Shamsuddin, A. J. J. (2013). *Exploring the common technology* adoption enablers among Malaysian SMEs: Qualitative findings. Journal of Management and Sustainability, 3(4), 78. <u>https://doi.org/doi:10.5539/jms.v3n4p78</u>
- Allison, H., McKenny, A. F., & Short, J. C. (2013). The effect of entrepreneurial rhetoric on microlending investment: An examination of the warm-glow effect. Journal of Business Venturing, 28(6), 690-707. <u>https://doi.org/https://doi.org/10.1016/j.jbusvent.2013.01.003</u>

- Alshamaila, Y., Papagiannidis, S., & Li, F. (2013). Cloud computing adoption by SMEs in the northeast of England: A multi-perspective framework. Journal of enterprise information management, 26(3), 250-275. <u>https://doi.org/ https://doi.org/10.1108/17410391311325225</u>
- Amin, M. R., & Hussin, H. (2014). E-commerce adoption in SME retail sector: A conceptual model. The 5th International Conference on Information and Communication Technology for The Muslim World (ICT4M),
- Ammar, A., & Ahmed, E. M. (2016). Factors influencing Sudanese microfinance intention to adopt mobile banking. Journal of Cogent Business Management, 3(1), 1154257. <u>https://doi.org/https://doi.org/10.1080/23311975.2016.1154257</u>
- Anglin, H., Short, C., Ketchen Jr, D. J., Allison, T. H., & McKenny, A. F. (2020). Third-party signals in crowdfunded microfinance: The role of microfinance institutions. Journal of Entrepreneurship Theory Practice, 44(4), 623-644. <u>https://doi.org/DOI:</u> 10.1177/1042258719839709
- Ashta, A. (2016). Microfinance: Battling a Wicked Problem. PIE Peter Lang, Brussels, 10, b10494.
- Baker, J. (2012). The technology-organization-environment framework. Information Systems Theory, 1, 231-245.
- Belleflamme, P., Omrani, N., & Peitz, M. (2015). *The economics of crowdfunding platforms*. *Information Economics and Policy*, *33*, 11-28. https://doi.org/https://doi.org/10.1016/j.infoecopol.2015.08.003
- Blind, K. (2016). *The impact of regulation on innovation*. In *Handbook of innovation policy impact* (pp. 450-482). Edward Elgar Publishing.
- BoT. (2020). List of licensed tier 2 Microfinance service providers. Retrieved September 10 from https://www.bot.go.tz/BankSupervision/Institution
- Bruton, G. D., Khavul, S., & Chavez, H. (2011). *Microlending in emerging economies*: Building a new line of inquiry from the ground up. *Journal of International Business Studies*, 42, 718-739. <u>https://doi.org/DOI:10.1111/etap.12143</u>
- Bultum, A. G. (2014). Factors affecting the adoption of the electronic banking system in the *Ethiopian banking industry. Journal of Management Information System*, 1(1), 1-17.
- Chijoriga, M. (2015). Transformation of Non-Governmental Micro Finance Institutions (MFI's) in Tanzania. Business Management Review, 15(1), 64-86.
- Coffie, C. P. K., Hongjiang, Z., Mensah, I. A., Kiconco, R., & Simon, A. E. O. (2021). Determinants of FinTech payment services diffusion by SMEs in Sub-Saharan Africa: evidence from Ghana. Journal of Information Technology for Development, 27(3), 539-560. <u>https://doi.org/ https://doi.org/10.1080/02681102.2020.1840324</u>
- Dorfleitner, G., Just-Marx, S., & Priberny, C. (2017). What drives the repayment of agricultural micro-loans? Evidence from Nicaragua. The Quarterly Review of Economics Finance, 63, 89-100. <u>https://doi.org/https://doi.org/10.1016/j.qref.2016.02.009</u>
- Dorfleitner, G., Oswald, E.-M., & Röhe, M. (2020). The access of microfinance institutions to financing via the worldwide crowd. The Quarterly Review of Economics Finance, 75, 133-146. <u>https://doi.org/https://doi.org/10.1016/j.qref.2019.03.010</u>
- Easingwood, C., & Beard, C. J. I. M. M. (1989). *High technology launch strategies in the UK*. 18(2), 125-138.
- Falk, R. F., & Miller, N. B. (1992). A primer for soft modeling. University of Akron Press.

- Flannery, M. (2009). *Kiva at four (innovations case narrative: Kiva). Innovations: Technology, Governance, Globalization, 4*(2), 31-49.
- Frambach, R. T., Barkema, H. G., Nooteboom, B., & Wedel, M. J. J. o. b. r. (1998). Adoption of service innovation in the business market: An empirical test of supply-side variables. 41(2), 161-174.
- Frambach, R. T., & Schillewaert, N. J. J. o. b. r. (2002). Organizational innovation adoption: A multi-level framework of determinants and opportunities for future research. 55(2), 163-176.
- Garvey, K., Ziegler, T., Zhang, B. Z., Wardrop, R., Rau, P. R., Gray, M., & Ridler, S. (2017). Crowdfunding in East Africa: Regulation and policy for market development.
- Ghobakhloo, M., Arias-Aranda, D., & Benitez-Amado, J. (2011). Adoption of e-commerce applications in SMEs. *Industrial Management & Data Systems*.
- Gieure, C., del Mar Benavides-Espinosa, M., & Roig-Dobón, S. J. J. o. B. R. (2020). The entrepreneurial process: The link between intentions and behavior. *112*, 541-548.
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. J. (2019). When to use and how to report the results of PLS-SEM. *Journal of European business review*, *31*(1), 2-24. <u>https://doi.org/ https://doi.org/10.1108/EBR-11-2018-0203</u>
- Hair Jr, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2021). A primer on partial least squares structural equation modeling (PLS-SEM). Sage publications.
- Harindranath, G., Dyerson, R., & Barnes, D. J. E. J. o. i. s. e. (2008). *ICT adoption and use in UK SMEs: a failure of initiatives?*, 11(2), pp91-96-pp91-96.
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. Journal of the Academy of marketing science, 43, 115-135. <u>https://doi.org/https://doi.org/10.1007/s11747-014-0403-8</u>
- Holak, S. L., Lehmann, D. R. (1990). Purchase intentions and the dimensions of innovation: An exploratory model. Journal of product innovation management: an international publication of the product development and management association, 7(1), 59-73.
- Jenik, I., Lyman, T., & Nava, A. (2017). Crowdfunding and financial inclusion. CGAP working paper, 41.
- Kauffman, J., & Riggins, F. J. (2012). Information and communication technology and the sustainability of microfinance. Journal Electronic Commerce Research, 11(5), 450-468. <u>https://doi.org/https://doi.org/10.1016/j.elerap.2012.03.001</u>
- Kiva. (2020a). *How Kiva works*. Retrieved July 24 from <u>https://www.kiva.org/blog/how-kiva-works-faqs</u>
- Kiva. (2020b). *Where does Kiva work*? Retrieved October 20, from <u>https://www.kiva.org/about/where-kiva-works</u>
- Kuan, K. K. Y., & Chau, P. (2001). A perception-based model for EDI adoption in small businesses using a technology-organization-environment framework. *Journal of Information Management*, 38(8), 507-521.
- Lai, Y., Sun, H., & Ren, J. (2018). Understanding the determinants of big data analytics (BDA) adoption in logistics and supply chain management: An empirical investigation. *The International Journal of Logistics Management*, 29(2), 676-703. <u>https://doi.org/https://doi.org/10.1108/IJLM-06-2017-0153</u>

- Lindell, M. K., & Whitney, D. J. (2001). Accounting for common method variance in crosssectional research designs. *Journal of applied psychology*, 86(1), 114. <u>https://doi.org/ https://doi.org/10.1037/0021-9010.86.1.114</u>
- Maduku, D. K., Mpinganjira, M., & Duh, H. (2016). Understanding mobile marketing adoption intention by South African SMEs: A multi-perspective framework. International Journal of Information Management, 36(5), 711-723. https://doi.org/https://doi.org/10.1016/j.ijinfomgt.2016.04.018
- Majchrzak, A., & Malhotra, A. (2013). *Towards an information systems perspective and research agenda on crowdsourcing for innovation. The Journal of Strategic Information Systems*, 22(4), 257-268. https://doi.org/https://doi.org/10.1016/j.jsis.2013.07.004
- Marakkath, N., & Attuel-mendes, L. (2015). Can microfinance crowdfunding reduce financial exclusion? Regulatory issues. Journal of International Journal of Bank Marketing, 33(5), 624-636. <u>https://doi.org/DOI:10.1108/IJBM-06-2014-0080</u>
- Maroufkhani, P., Tseng, M., Iranmanesh, M., Ismail, W. K. W., & Khalid, H. (2020). Big data analytics adoption: Determinants and performances among small to medium-sized enterprises. International journal of information management, 54, 102190. https://doi.org/https://doi.org/10.1016/j.ijinfomgt.2020.102190
- Marwa, N. (2014). Micro, small and medium enterprises' external financing challenges: *The role* of formal financial institutions and development finance intervention in Tanzania. *International Journal of Trade, Economics, and Finance, 5*, 230-234.
- Mathieson, K. J. I. s. r. (1991). *Predicting user intentions: comparing the technology acceptance model with the theory of planned behavior.* 2(3), 173-191.
- Moleskis, M., & Canela, M. Á. (2016). Crowdfunding success: The case of Kiva. org.
- Muthinja, M. M., & Chipeta, C. J. J. O. A. B. (2018). *What drives financial innovations in Kenya's commercial banks?* An empirical study on firm and macro-level drivers of branchless banking. *19*(3), 385-408.
- Nam, D.-w., Kang, D.-w., & Kim, S. (2015). Process of big data analysis adoption: Defining big data as a new IS innovation and examining factors affecting the process. 2015 48th Hawaii International Conference on System Sciences,
- Ndungu, J. M., & Moturi, C. A. (2020). Determinants of mobile Fintech uptake in the Kenyan microfinance sector. Current Journal of Applied Science Technology, 39(28), 102-114.
- Premkumar, G. (2003). A meta-analysis of research on information technology implementation in small business. Journal of organizational computing Electronic Commerce Research, 13(2), 91-121. <u>https://doi.org/https://doi.org/10.1207/S15327744JOCE1302\_2</u>
- Rasheed, R., Siddiqui, S. H., Mahmood, I., & Khan, S. N. (2019). Financial inclusion for SMEs: Role of digital micro-financial services. Review of Economics Development Studies, 5(3), 571-580. <u>https://doi.org/DOI</u>: <u>https://doi.org/10.26710/reads.v5i3.686</u>
- Singh, A. S., & Masuku, M. B. (2014). Sampling techniques & determination of sample size in applied statistics research: An overview. International Journal of Economics, commerce management, 2(11), 1-22.
- Tehrani, S. R., & Shirazi, F. (2014). Factors influencing the adoption of cloud computing by small and medium-sized enterprises (SMEs). Human Interface and the Management of Information. Information and Knowledge in Applications and Services: 16th International Conference, HCI International 2014, Heraklion, Crete, Greece, June 22-27, 2014. Proceedings, Part II 16,

- Teo, T. S. P., Siau Heong (2003). Adoption of the internet and WAP-enabled phones in Singapore. Behavior Information Technology, 22(4), 281-289.
- Thong, J. Y. (1999). An integrated model of information systems adoption in small businesses. Journal of management information systems, 15(4), 187-214.
- Thong, J. Y., & Yap, C. (1995). CEO characteristics, organizational characteristics and information technology adoption in small businesses. *Omega*, 23(4), 429-442.
- Tornatzky, L. G., & Klein, K. J. (1982). Innovation characteristics and innovation adoptionimplementation: A meta-analysis of findings. *Transactions on engineering management*(1), 28-45.
- Uddin, M. A., Mahmood, M., & Fan, L. (2019). Why individual employee engagement matters for team performance? Mediating effects of employee commitment and organizational citizenship behavior. *An International Journal*, 25(1/2), 47-68.
- URT. (2017). *National Microfinance Policy 2017*. Retrieved February 15 from <u>https://www.mof.go.tz</u>
- URT. (2019). *The Microfinance (non-deposit-taking microfinance serviceproviders) Regulations,* 2019 Retrieved October 2020 from <u>https://www.bot.go.tz</u>
- Weigelt, C., & Sarkar, M. B. J. A. o. M. J. (2009). Learning from supply-side agents: The impact of Technology Solution Providers' experiential diversity on Clients' innovation adoption. 52(1), 37-60.
- Yang, Q., & Lee, Y. (2019). An investigation of enablers and inhibitors of crowdfunding adoption: Empirical evidence from startups in *China. Human Factors Ergonomics in Manufacturing Service Industries*, 29(1), 5-21. <u>https://doi.org/</u>
- Yermack, D. (2018). FinTech in sub-Saharan Africa: What has worked well, and what hasn't(No.w25007). National Bureau of Economic Research. https://doi.org/10.3386/w25007.
- Zhu, K., Kraemer, K., & Xu, S. (2003). Electronic business adoption by European firms: a crosscountry assessment of the facilitators and inhibitors. European Journal of information systems, 12, 251-268. <u>https://doi.org/https://doi.org/10.1057/palgrave.ejis.3000475</u>
- Ziegler, T., Shneor, R., Wenzlaff, K., Odorović, A., Hao, R., & Ryll, L. (2021). The 4th European alternative finance benchmarking report.

# Appendix

# Constructs' Items and Sources

Construct	Indicators	Items	Sources
Adoption intention	ADO11	Our Institution wants to collect more information about that prosocial crowdfunding	Lai et (2017)
	ADO12	Our Institution wants to try prosocial crowdfunding in our financing strategies	Maduku et al
	ADOI3	Our firm intends to adopt prosocial crowdfunding	(2010)
	ADOI4	Our Institution has a clear plan to adopt prosocial crowdfunding in the near future.	
	ADOI5	Our institution would be enthusiastic about adopting prosocial crowdfunding	
Regulatory support	RS1	The existing governmental policies encourage us to adopt new information technology (e.g. prosocial crowdfunding)	Hsu et al. (2014)
	RS2	There are some business laws to deal with security and	Maduku et al,
		privacy concerns over the prosocial crowdfunding	2017
	RS3	The government provides incentives for using prosocial crowdfunding in accessing funding such as offering technical support, training, etc.	Lai et al 2017
Competitive pressure	CNP1	Our choice to adopt prosocial crowdfunding would be strongly influenced by what competitors are doing in the industry	Maduku et al. (2016)
	CPN2	Our firm is under pressure from competitors to adopt prosocial crowdfunding	
	CNP3	Our firm would adopt prosocial crowdfunding in response to what competitors are doing	
	CNP4	It is easy for our customers to switch to another institution for similar services.	
Vendor	SS1	Vendors actively market the use of prosocial crowdfunding	Maduku
support	SS2	There would be adequate technical support for prosocial crowdfunding provided by vendors	(2016)
	SS3	Training about prosocial crowdfunding is adequately provided by prosocial crowdfunding platforms	

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Client readiness	CR1	Our clients would provide the easily accurate personal information required for prosocial crowdfunding campaigns		
	CR2	Our clients would provide easily accurate business information required for prosocial crowdfunding campaigns	Kim et al, (2019);	
	CR3	Our customers own smartphones		
	CR4	Our customers have the ability to send us both personal and business information through their smartphones	1 (2003)	

# Acknowledgment

The authors of this paper gratefully acknowledge the funding of the Danida Fellowship Centre (DFC) through the project of Crowdfunding for Youth Entrepreneurs in Tanzania (C4YET).